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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,569	07/16/2003	James W. Fuller	67097-006	9253

26096 7590 07/03/2006

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EXAMINER

HIRL, JOSEPH P

ART UNIT PAPER NUMBER

2129

DATE MAILED: 07/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/620,569

Applicant(s)

FULLER, JAMES W.

Examiner

Joseph P. Hirl

Art Unit

2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to an AMENDMENT entered May 22, 2006 for the patent application 10/620,569 filed on July 16, 2003.
2. The First Office Action of February 22, 2006 is fully incorporated into this Final Office Action by reference.

Status of Claims

3. Claims 1-35 are pending.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. ~~Claims 33-35 are rejected under 35 U.S.C. 112, second paragraph, as being~~
indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 33 depends from claim 1 and step e but generating a plurality of actuator commands does not follow from completing the solution of the Large Sparse Matrix Equation. There is an antecedent problem with actuator commands. Claim 34 depends from claim 1 but does not follow from the substance of claim 1. There is an antecedent problem with actuator commands. Claim 35 depends from claim 17 but ...does not flow from the substance of claim 17, i.e.

Large Sparse Matrix Equation. Summary, to one of ordinary skill in the art, it is not clear how the limitations of claims 33-35 limit the claims from which they depend.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The subject claims do not produce a result that is a practical application/use. Claims set 1 (claims 1-16) concern a methodology that may manipulate numbers related to a problem without any practical application or use. Claims set 2 (claim 17) again concerns a methodology related to sensors of a system but again there is no statement related to practical application or use. Claim set 3, (18-32) concerns a methodology related to MPC (model predictive control) for a "plant" related to sensor that identify a current state of the system but there is no stated intention (practical application or use) for the results of the claimed effort. Rubber-Tip Pencil Co. v. Howard, 87 U.S. (20 Wall.) 498, 507 (1874)

Applicant is invited to review the "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" published in the Official Gazette on November 22, 2005.

Response to Arguments

7. The rejection of claims 16 and 32 under 35 USC § 12, second paragraph are withdrawn.
8. Applicant's arguments filed on May 22, 2006 related to Claims 1-35 have been fully considered but are not persuasive.

In reference to Applicant's argument:

Claims 1-16 recite "sampling commands and feedback sensors to pose a determination of actuator commands in terms of a solution of a quadratic programming problem based upon model predictive control." The step of "sampling commands and feedback sensors" is precomputer process activity, qualifying these claims for the statutory subject matter safe harbor.

Examiner's response:

"Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" published in the Official Gazette on November 22, 2005 are the current guidelines requiring a result that is a practical application.

In reference to Applicant's argument:

Claim 17 recites "receiving a plurality of sensor signals indicating current conditions of the system" and "formulating a problem ... using ... the sensor signals." This pre-computer activity qualifies the claim for the safe harbor of the statutory subject matter guidelines.

Examiner's response:

"Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" published in the Official Gazette on November 22, 2005 are the current guidelines requiring a result that is a practical application.

In reference to Applicant's argument:

Claims 18-32 recite "a plurality of sensors indicating the current state of the system' and "formulating a problem of achieving the desired dynamic response based upon the current state of the system." The precomputer activity, qualifies the claim under the safe harbor.

"Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" published in the Official Gazette on November 22, 2005 are the current guidelines requiring a result that is a practical application.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Claims 1-35 are rejected.

Correspondence Information

11. Any inquiry concerning this information or related to the subject disclosure should be directed to the Primary Examiner, Joseph P. Hirl, whose telephone number is (571) 272-3685. The Examiner can be reached on Monday – Thursday from 6:00 a.m. to 4:30 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, David R. Vincent can be reached at (571) 272-3080.

Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,
Washington, D. C. 20231;

Hand delivered to:

Receptionist,
Customer Service Window,
Randolph Building,
401 Dulany Street,
Alexandria, Virginia 22313,
(located on the first floor of the south side of the Randolph Building);

or faxed to:

(571) 273-8300 (for formal communications intended for entry.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

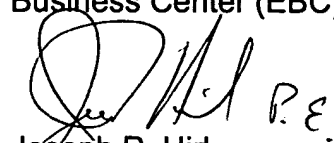
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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll free).

A handwritten signature in black ink, appearing to read "J. P. Hir", with a stylized flourish at the end.

Joseph P. Hir
Primary Examiner
June 27, 2006